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NOVEMBER, 1883.

THE MEETING of the American Pomological Society, in Philadelphia, in September, proved of much interest to fruit-growers and horticulturists generally. The venerable President of the Society, MARSHALL P. WILDER, on account of "a recent disability," as he wrote, was not present. He, however, wrote an address which was read before the Society. His notice of members lately deceased was quite full and touching. "During the interval since our last session, we have sustained greater losses of official and prominent associates than in any former like period in the history of our Society. In my former addresses I have endeavored to place in our records a reference to those actually engaged in promoting the objects of this Society, and now I have the melancholy duty of adding to that starred roll of worthy men, the names of JAMES VICK, BRYANT, SCHLEY, PEARCEY, ARNOLD, JOHNSON, HOOKER, TRANSOU and WARDER. In this list we number seven Vice Presidents, a Treasurer, Secretary and a member of our Fruit Committee." A particular notice of each of these former members is then given, and lastly of HENRY B. ELLWANGER, of whom, among other remarks, he says, "Mr. ELLWANGER had been a constant attendant at our sessions for many years, and is well remembered as reporting, at our last meeting, for his father, then in Eu-

rope, on foreign fruits. How mysterious is this Providence! It is only six weeks since he was sitting by my side and expressing the great interest which he felt in the hybridization of the Rose, and his hope that, although we may not be able to paint the Lily, we may yet 'add perfume to the Rose.' Of all, he remarked: "These, and other friends, have gone before us to that better land, where, we trust, they are now partaking of fruits from the tree of life, that perish not with their use."

The fruit display was very fine. One firm from Jenkintown, Pa., exhibited two hundred varieties of Pears, and thirty of Peaches. The Minnesota Horticultural Society sent in one hundred and forty plates of Apples and thirty of Grapes. This collection of Apples was particularly noticeable for the high color of the specimens. The Wealthy Apple, a Minnesota seedling, stood at the head of the collection. Other States were well represented by fruit collections. The new varieties of Grapes of A. J. CAYWOOD and J. H. RICKETTS, of this State, were greatly admired. ELLWANGER & BARRY made a grand display of Plums. A specimen of Victoria Regia, the great Amazon Water Lily, was exhibited in a tank, by E. D. STURTEVANT, of Bordentown, N. J.

The next meeting is to be held in the fall of 1885, at Grand Rapids, Mich.

THE AMARYLLIS.

This plant is now so popular for house culture that it needs no recommendation. The treatment of the plants of the different varieties has been so well described in our pages by various correspondents

how the plants can be successfully cultivated in the window garden. One thing cultivators of these plants must give attention to, which is a knowledge of their real character. A number of different plants, though closely allied, pass under the common name of Amaryllis, and some re-



IVES' PROCESS, PAT'D

CROSSCUP & WEST, PHILA.

A STAND OF AMARYLLIS.

that it is unnecessary at this time to add more. Many have now their bulbs ready to start after a season of rest, others will have soon. The engraving of a stand of Amaryllis here shown was taken from a photograph sent us by Mrs. S. C. HARRELL, whose contribution appeared on page 35 of this volume, where was told

quire different treatment from others. *Valotta purpurea* is popular, and in the trade is known as Amaryllis, but it requires a treatment somewhat different from the Amaryllis, as it should not be entirely dried off. This is also true of many species of the *Hippeastrum*, which also commonly pass as varieties of Amaryllis.

NOVEMBER WORK.

Garden work, this month, is of a very varied character. In some parts of the country the care of fruits will yet require time. Land for early spring crops can be put in order by plowing or spading. Underdraining can be performed. Many will be engaged in transplanting trees and shrubs. It is well to do as much of the planting of hardy trees as possible. This work should be carried on, however, only when the ground is dry. It is worse than useless to transplant in wet ground, and especially in the fall. After transplanting trees, it is best to bank up well all around the stem of the tree; the bank of soil will prevent the tree from moving at the roots when blown by the wind, and it will aid in protecting from mice, if snow should fall before the ground freezes. Whenever this should occur, those having valuable trees, whether newly planted or not, should immediately tread about them, packing the snow firm, thus preventing access by the mice to the trees. The damage these little rodents can do in a short time we hope our readers may never know by experience. All fruits should be carefully examined for insect's eggs and pupæ, and cleaned of them. It is a good time to do pruning, thinning out the too numerous shoots and crowding branches of fruit trees, cutting out the dead canes of Raspberry and Blackberry bushes, if this has not already been done. All things considered, it is the best time to prune Grape vines, and in the very severe climates of the north and west the vines may be laid down for protection. This is also advisable for Raspberries and Blackberries, and is best done by drawing the canes to the ground and fastening them there by throwing on the ends a little soil, just enough to hold them in place. Roses can be protected in a similar manner when they admit of it; when the stems are stiff, draw the soil up about them, and bind straw about the upper ends. In planting Asparagus, finish the work by giving a good covering of coarse litter.

The nuts and seeds of trees planted this month will germinate much earlier, and make a better growth in the spring than if kept over the winter in any way. But if not planted in the fall, they may be best preserved by mixing them with sand

a little moist, and keeping them in a cool place. In many parts the Dahlia roots have been removed from the ground, and in others they will be this month; after drying a little they can be placed in a cool cellar and be covered with dry sand, where they will keep well until spring. Tuberoses that have bloomed, being practically worthless, should be thrown away, but young bulbs should be carefully guarded from frost, and be placed in a dry room where the temperature will be kept above fifty degrees. The garden now should be cleared of all litter, and made neat and trim. Spring-blooming bulbs can yet be planted this month in all parts of the country.

SALPIGLOSSIS.

The Salpiglossis is one of the most beautiful of annuals, and makes a fine mass planted with the different colors. This plant is a native of Chili, and with us is called half-hardy. The soil where it is grown should be rich and mellow, and by preference sandy. Although the seeds can be sown in a warm, sheltered place in the open ground when the weather is settled in the spring, it is better to raise the plants in the house, greenhouse or cold-frame, and thus get them earlier and more surely. Under glass the little plants, as soon as they have made a few leaves, should be potted off in small pots, and as they grow, shifted into larger ones. In this way they can be had of good size by the time frosts are gone, and be ready to plant out and commence flowering almost immediately. They continue in bloom all summer. When the seeds are sown in the open ground the plants bloom rather late. In transplanting from pots it is best not to break the ball of soil, as this plant does not bear transplanting as well as many others, and it is best to take this precaution. We know of no flower superior to this for bright, rich coloring for vases of cut flowers.

The varieties in cultivation are greatly improved in the size and colors of the flowers over those first introduced from the wild state, and triumphantly exhibit the florists' and seedsmen's skill in improvement, by breeding for years from seed selected from the finest specimens.

CLEMATIS AND ITS USES.

Climbing vines are coming more and more into use every year. We are learning how to use them and yet have much to learn. We have seen, the past season, a Clematis Jackmani trained with Hall's Honeysuckle, and the contrasting white and purple had a very fine effect. Purple and white varieties of Clematis trained together are beautiful when in flower. A fine disposition of the Clematis is to train it on a frame over and around a

window. A wire frame is neatest, but it can be made of wood if more convenient. The frame should be made flat, so as to stand parallel with the window, and have an opening a little larger than the size of the window. Such a trellis, partially covered with a vine of Clematis Jackmani, is here shown. Another year the stems will probably entirely cover the frame. It was a complete mass of bloom for several weeks, last summer, the large, purple blossoms

being spread out so as to present a perfect sheet of royal color. An excellent way of training the Clematis in the garden is as pillar plants. One of the simplest means of effecting this is by taking three poles and setting them into the soil so as to make them secure, bring their tops together and fasten them. A plant of a different variety can occupy each pole, and they will form a most beautiful garden ornament. For safety, the vines can be taken down in the fall, the side shoots pruned in, the main stems shortened, and then all be coiled about in a small place and be given light

covering of leaves; this will protect them from injury during winter. At the same time the poles can be removed and stored away.

As all know, the large-flowered varieties of Clematis can be used very effectively in bedding, by pegging down the shoots at short intervals. Occasionally we see it so employed, but far less frequently than it deserves. It is unnecessary to say that C. Jackmani, by reason of its vigorous growth and abundant blooming, is the best for this and similar

purposes; but other varieties should not be neglected. C. lanuginosa alba is the best light colored one for the same use, but there are many others of various shades worthy of attention. Old stumps and dead tree trunks can be made objects of beauty by setting plants of Clematis at their bases and training them over them. Here or there an arch of rustic work spanning a walk can be over-grown with these plants and be made very attractive.

The Clematis makes its flow-

ers on the new growth, or the growth of the same season, consequently it is absolutely necessary to keep up a good supply of new wood. To secure this end attention is required to pruning, much the same as with the Grape vine. It is also necessary that the plants be liberally supplied with manure. A dressing of stable manure in the fall is of the greatest advantage. During the growing season, if it should be discovered that the plants are making too little or too feeble growth, supply them with liquid manure, soaking the ground not directly around the stems, but for a yard or two distant.



CLEMATIS JACKMANI ON A FRAME.



IN THE AUTUMN WOODS.

To me nothing is more delightful than a stroll in the woods in the late days of September, or in early October, before the heavy frosts have killed the flowers. Here, in Wisconsin, we have many gorgeous effects of color in our autumn woods which I have never seen at the east. All along the rivers the Water Maple grows into great trees, branching from the roots. Often you will see six or eight trunks growing from one base, each trunk forming a good-sized tree. These spread out from each other, and their long, slender limbs droop gracefully forming a perfect canopy of foliage which, in September, takes on most brilliant colors. No other tree gives such magnificent color-effects, not even the Sumach, which grows here plentifully in every old clearing and pasture. Scarlet, yellow, brown and purple are all to be found on the Maples along the rivers in September, and the magnificent effect can be much better imagined than described. These colors are all brilliant and glowing ones, not dull or subdued. Frequently you will find a Water Maple standing among Elms, or other trees which retain their green hue to the last, and the effect is one that would delight any lover of gorgeous coloring, for the Maple will be a mass of intense red, like the Virginia Creeper, which is familiar to almost every one, and the contrast will be delightful. The effect is always finest in seasons when frost does not come on early. A clump of Maples shows to the best advantage against a background of somber Pines. It is not unusual to see them growing together, as our Pines are not confined to high land, nor our Water Maples to the banks of streams or low, marshy places. Many of our western cities have their streets bordered with

these Maples, and the effect in autumn is very fine. This tree is very easily transplanted, and it adapts itself readily to higher and drier land than that where it is usually found growing.

In September we have a display of gorgeous flowers along our streams. Gorgeous is the right word to use when you attempt to describe the effect produced by the Cardinal Flower and the wild Sunflower, as you see them growing together. We often come upon clumps of them twenty or thirty feet across, where they have been growing and spreading for years. The Cardinal Flower grows here to the height of four or five feet, each root sending up a dozen or more spikes of flowers, so intense in color that the eye is half blinded by them. The Sunflower, which is a single flower, of a bright, glowing yellow with a brown disk, grows to a greater height than the Lobelia, and branches freely, bearing hundreds of flowers which contrast most effectively with the masses of scarlet below. If these two flowers could be made to grow in our gardens as they grow here, they would create a furore of excitement among the lovers of brilliant color-effect in gardening. Nature knows how to produce these effects better than we do.

Frequently you will see what seems to be a profusion of rich scarlet flowers in the top of an Elm or scrubby Pine. Investigate, and you will find that a Virginia Creeper has climbed the tree and flung its branches, right and left, in great luxuriance, and the artist of the autumn woods has colored it into a semblance of most beautiful flowers. This vine flourishes everywhere, and seems equally at home in low lands or on the highest hills. It is often found completely covering dead trees, and the old trunk and life-

less branches are clothed with more beautiful garments than they ever wore in their lifetime.

Here and there, along the streams, you will come upon clumps of a swamp variety of Golden Rod, which is never found on the uplands. It grows to be only two or three feet high, and bears a long and slender spike of flowers, but it grows so thickly that the effect is one of great brilliance. It makes you think of the "field of the cloth of gold" of oriental tales. Among it you often see a late-blooming *Spiræa*, which bears great clusters of pale pink flowers. This *Spiræa* is the only autumn flower we have that is not vividly colored, with the exception of a few pale Asters, which are not found in any quantity away from the banks of streams.

Every old pasture becomes a garden filled with beauty in September, if cattle have not cropped it too closely. The fence corners are ablaze with the torches of the Golden Rod, and growing along with this most beautiful plant we always find the Aster. The two are most effective contrasts of each other. The less brilliant, but equally intense, color of the Aster brings out the beauty of the Golden Rod to the utmost, and you find it hard to decide which you like best. Of all our native flowers, I love these two best. I have domesticated them, and the "wild corner" of my garden is bright with their beauty for weeks every autumn. I do not attempt to cultivate them. I placed the roots there, and let them take care of themselves after that. They are perfectly able to do it. They can do it better than I could if I were to try. If I attempt to help them, they seem to try to tell me that they appreciate my kindness and are grateful for it, but they prefer to be let alone.—EBEN E. REXFORD.

THE BULB WINTER GARDEN.

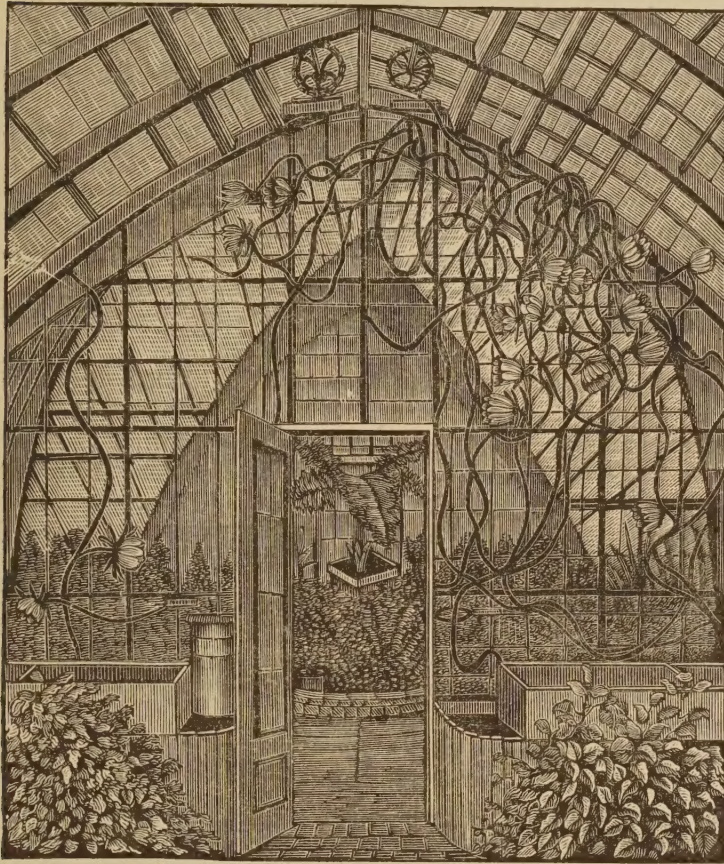
I thought the following might give some of the readers of the MAGAZINE an idea of how to have a thing of beauty and a joy through the weary winter days. The first of last December I took a revolving wire plant stand, with three brackets, in each of the brackets I placed old oil cloth, then I filled with soil to the depth of three inches. In the top one, which was the smallest, I planted three Hyacinths, in the next, one dozen Tulips,

(Duc Van Thols,) with Crocuses between, in the third and largest, nine Hyacinths and plenty of Crocuses; gave it a thorough watering, covered with paper and set it in a cool cellar, and patiently waited for nature to perform her perfect work. In six weeks the little white root-lets began to creep through every crevice in the worn cloth, and I thought it high time to bring it out to the light of day and receive as much of the blessed sunshine as possible. I gave it the most favorable spot in my dining room, the temperature was kept moderately cool, the bulbs were covered with more soil, and over all a thick covering of fresh, velvety green moss. This of itself was an attractive object, but nothing to be compared with what came after. The stand was freely watered, and with what rapturous joy we greeted the appearance of the Tulips! First, one little head peeped up, then another and another, and in two week's time their gorgeous coloring reminded us of birds in tropical climes. Then the dear little Crocuses began to throw up their grass-like leaves, and next came the vase-like bloom. Last, but far from least, came the long looked for Hyacinths. Verily, in this instance, "patient waiters were not losers." How eagerly each member of the family watched their growth, and predicted from the color of the foliage what the flower should be! It was the first object of interest in the morning and the last care at night, and when the long, rich spikes of beautifully colored flowers were in full bloom, we said, over and over again, who would be without flowers in winter. Every guest and chance visitor pronounced it the most attractive spot in the house. The little children would come, at the close of school, to see our wonderful winter garden. It was not only a continual delight to my own family for six weeks, but a bright spot in a long winter for all who saw it, and was the declaration, "I'll have one like it," from the lips of home and flower lovers. I think my success depended upon three things, having the bulbs well rooted when brought to light, keeping them in a cool atmosphere and well watered. After the first cost and labor it was of little trouble, and the stand could be filled with such bulbs as one might fancy.—ERNST H. CUSHMAN, *Euclid, Ohio.*

CACTUS PLANTS.

The plants of the botanical order Cactaceæ are exclusively confined to the new world when growing in a state of nature; very many species have, however, become naturalized elsewhere, mostly in tropical and warm, temperate regions, to which the majority belong. The flowers are among the most beautiful in nature, and the plants are otherwise remarkable as being, for the most

usually happens that during some given period, or periods, of the year a large quantity of rain falls, the atmosphere is saturated with moisture, and the low grounds with water. In a majority of cases this wet season is also the period of greatest heat, and it is then that most tropical plants live very fast. Cactæ are no exception, every tissue is active and distended with fluid, and many may almost be seen to grow. They store up material for future use, and then comes the dry season, during which the stores are elaborated. During this period they live very slowly, their functions of absorption, exhalation, extension, &c., are dormant, the plant is at "rest," as it is termed by gardeners. Their thick cuticle and the absence of stomata enable them to exist and to retain enough of the fluids they have previously absorbed, for months together, and, like the camel, they are admirably fitted for the desert life they lead. Digestion, or at any rate elaboration, goes on, and results, in due time, in the most glorious profusion of blossom, often enchantingly delicate in hue, sometimes vivid in the extreme, and as often delightfully fragrant.



NIGHT-BLOOMING CEREUS IN GREENHOUSE.

part, destitute of leaves, but instead they are often clothed with spines, either singly or in tufts or bunches. Some species are mostly destitute of these, and they are, as a rule, those with flat, expanded stems and branches, which, to some extent, perform the functions of leaves. The Epiphyllums, and some species of *Cereus*, are examples of flat-stemmed kinds, but the latter genus differs widely in this respect, some have almost round, others many-angled stems, often of great length, and resembling ropes. Nearly all are adapted to the same general conditions, differing, of course, in degree. In tropical climates it

The beauty is usually short lived, but large plants often produce a long succession of bloom.

The most splendid genus in the whole order is the *Cereus*, and this is especially so on account of the various night-flowering species. The most popular among these is a variety called *C. MacDonaldiæ*, (Mrs. MacDonald's *Cereus*,) which is the largest and most beautiful. Dr. REGEL, of the St. Petersburg Botanic Gardens, has originated some exceptionally fine varieties, which under liberal culture, produce immense flowers, measuring from fifteen to eighteen inches in diameter. *Cereus latifrons*, a South

American, broad-stemmed species, of shrubby growth, and with deliciously perfumed, pure white flowers is sometimes met with, but not always in good condition. It requires some shade, abundant moisture, and high temperatures during growth, and more heat during the period of rest than some others.

Cereus grandiflorus, introduced from Jamaica in 1700, is the most commonly met with, but only rarely of large size. The photograph from which our engraving was prepared was taken about half past eight on the evening of July 5th, in the conservatories of F. F. THOMPSON, of Canandaigua, by an amateur friend of that gentleman. Twenty expanded flowers are shown to have developed. On the same evening *Cereus cylindricus* opened seven blooms. Some of the dwarf species have been bedded out on the same charmingly situated property, and have bloomed freely during the summer evenings. A good Cactus soil consists of sandy loam, peat, lime rubbish and dried cowdung in equal parts. In potting always thoroughly drain the pots.

—JAMES MACPHERSON.

THE WHITE SAGE.

Few, if any, floral publications have done more to bring the true characteristics and merits of California trees and plants before the public than have those of JAMES VICK. That true lover of Flora's gifts visited the flowery vales and mountains of that State, and on his return home was never tired of talking and writing of the countless acres of brilliant floral jewels he saw there. We are pleased to see that his successors are following in the footsteps of their father. California owes them lasting thanks and is always ready to bestow them.

The products of the State are so varied and of such superior merit that her people, as also those of other climes, can not help but praise them. Her specimens of the vegetable kingdom are often nearly wonderful, and then the quantity is still as surprising. Once the "land of gold," she passed successfully to be the land of Wheat, of the Grape, of flowers, of fruit, of milk and of honey, and in a wondrous degree combined them all as no other country could. Her gigantic trees have been gazed at in astonishment by people from all shores; her gold has

enriched many, while it has found a place in the pockets of every civilized being in the world who had the least desire of possessing the golden shiners, and who among men has not had that wish. Her plump Wheat has crossed the wide seas to feed the hungry of the old world. Her brilliant and many hued flowers are adorning the gardens of the great and the humble in all quarters of the globe, and in the gardens of the peasant they luxuriate to the same degree as they do in the gardens of kings. Her fruits have of late years gone far and wide; they receive the same praise that her precious metals, wine, trees, grain and flowers do.

As it would seem, California wonders never cease. Scarcely a decade has passed since the busy bee revealed the fact there bloomed on the almost desolate hills and mountains of the southern part of the State an unpretentious flower that secreted nectar more copiously than the flowers of the Thyme on Mt. Hymettus did in days of yore. When the news of this newly discovered bee Arcadia reached apiarists in the north, the east and the south, the star of bee culture at once took its course westward, where gold hunters had, a quarter of a century previously, built up a prosperous State. In a few years numberless colonies were sending forth their innumerable workers to harvest the nectar which for ages past had been wasted on the desert air. The climate, in fact everything, rendered the country a paradise for bees, and they gathered such quantities of honey that it soon became an article of export. Ships were called into service to transport the delicious nectar to all parts of the world, and in return therefor the State received thousands of dollars and a reputation for excellent honey enjoyed by no other place in the world. This seems to be in the natural order, "excel in all things, fail in none." Like the flowers, fruit and wine the luscious nectar found a welcome entrance into the homes of the sovereign and of the peasant. Royal teeth have crushed the dainty waxen cells to the great delight of the owner. The poor invalid desires no pleasanter food or medicine than this aromatic honey.

The flowers from which so many hundred tons of honey have been gathered in the lower part of the State of California are those of what is now commonly called



"California Honey Sage." The one herewith shown is the true White Sage, *Audibertia polystachya*. Several species of *Audibertia* are found on the coast, but we have chosen the above for this article, as it is the most striking in appearance, and differs in inflorescence very much from all the others and from the genuine Sage. It has a very highly aromatic odor, and this, with its other peculiarities, makes it, when once known, easily recognized anywhere.

Figure 1 shows the plant in full bloom, and as grown on good soil, though not by any means above the average. On moderately rich and moist land it will keep up its efflorescence from June till Christmas, or till heavy frosts, which may be in January. On the dry hills and mountains in its native home its season of blooming is much shorter than on either moist or cultivated lands.

On account of its being a great nectar-secreting plant and because its season of efflorescence continuing longer than most other plants, it is of great value as bee pasturage. The plants are of easy culture, and will thrive on drier soil than will many other honey-producing plants. The writer is firmly of the opinion that this plant will grow well in all the most Southern of the Southern States, and will yield large quantities of nectar. Its easy culture should be sufficient inducement for all who plant for bee feed to give it at least a trial. The writer has cultivated it near Oakland, Cal., and finds that it grows exceedingly well, and is visited by bees in large numbers from morning till night. It seems never to know when to stop blooming. On account of its striking appearance, it makes a good plant for the garden, and to try it we have it so planted. Its whitish blue leaves and tall spikes, sometimes from six to eight feet high, give entire satisfaction as individual plants, but where grouped they do not grow so tall, and are still more beautiful. The plant from which the accompanying sketch was made is one raised by the writer on rather dry soil.

In conclusion, we would advise all bee-keepers in this State and those of the Southern States above mentioned to sow a few seed, and every year to assist in disseminating the same in their neighborhood, so that in a few years large patches of White Sage may be found in

the hills and valleys. This done, such a thing as a short honey crop will be a thing of the past.—W. A. PRYAL, *North Temescal, Cal.*

IN AUTUMN TIME.

I hear a voice from out the forest shadows,
Singing a low, sweet song,
As winds come softly sighing over meadows
Where quails pipe, all day long.

The trees have donned their robes of autumn splendor,
Gold-broidered in their red
And russet, and the brook's low voice is tender
With sorrow for the dead ;

For the dead flowers of summer's balmy weather,
The Violet and the Rose,
And Wind-blooms, blossoming amid the heather,
White as the winter snows.

The air is sweet with scents of Fern leaves dying
Upon the hill, where blooms
The Golden Rod, about whose torches flying,
The bee seeks lost perfumes.

At times, the blue-bird sings a mournful ditty
So sad, that it would seem
His little heart was stirred with yearning pity
For summer's sweet, dead dream.

Late Butterflies, reflecting all the glory
Of tree and shrub, fly past,
And tell to purple Aster blooms a story
Of things too sweet to last.

The hills have wrapped their brows in veils of amber
Against a dreadful sky,
And from their feet I see the smoke-wreaths clamber,
To join the clouds on high.

A gust comes upward from the valley, whirling
The dead leaves in the air ;
The yellow grass, its rustling leaves unfurling,
Bids autumn's winds forbear.

The ripe, brown nuts drop down with steady patter
Upon the leaf-strewn ground ;
And nimble squirrels leap with noisy chatter
To hear the welcome sound.

Sad sights, sad sounds for one of summer's lovers !
All whisper of decay :
On every hand the saddened heart discovers
Graves, where flowers sprang in May.

But, heart, remember this, and let the thought,
That naught has lived in vain,
Be with sweet comfort for thy sadness fraught,
And spring will come again !

—EBEN E. REXFORD.

LATE FRUIT.—It is now the 8th of October, and our Isabella Grapes are not yet ripe. Concord grapes are well colored, but are not as sweet as they usually are. In many places in this and adjoining counties the foliage of vines has been so injured with frost that the fruit cannot mature whatever the weather may yet be.—B. H., *Orleans Co., N. Y.*

THE WINTER GARDEN.

I want to cheat this Massachusetts winter of its length. Its storms do not daunt me, and last winter, with its heavy snows falling every week, was one of the most delightful seasons I can remember. But the dull, bare time, late in November and early in spring, is too much waste in life, when we of mid-age can count only on twenty or thirty more flowering seasons, at best. We do not get the good of our years, as we might by wise contrivance. These thin, wooden houses invite and hold the cold; these laboriously cleared "lots" are the black graveyards of promising shrubs and trees. I counted twelve fine young Maples dead along the block which were set out with pains, last year. The Snowballs and Forsythias, the flowering Almonds and Japan Quince this spring, instead of presenting masses of bloom, showed ugly, bare shoots winter-killed; the bulbs were not out of the ground till May, and the brief six weeks spring over, the garden has had to struggle for life with the pitiless heat and drouth. Shelter is the great want of our gardens. It is useless to waste car loads of manure, as has been the case on this garden before our time, unless the roots can find deep soil on which to draw in drouth, and to make strong growth of well ripened shoots, which can stand frost, unless there is light shade from intense July suns and leafy screens to break the winds of winter and summer alike. While the hedges are growing the Osier Willow runs up, the quickest wind-break, making a tolerable screen in one season, if judiciously nipped when five feet high, to make it throw out shoots. When the Thorn hedge is grown, the Willows can be cut off and the stumps formed. As for the trees, we will set them in the fall, when they will have time to get used to their new places, and start a good root, ready to begin growth next spring with the opening of the season, and get ahead of the dry weather, aided by thick mulchings of saw-dust and chips from the saw-mill. Our street trees have a hard time, living in dry clay soil, and the money and time wasted setting them over two or three times had better be saved by giving them intelligent care at first. I never hope to have such plants as I want while the west wind rakes the lawn from the bare fields beyond, and that five feet

stone wall, covered with Woodbine, to be built, looks more beautiful in prospect than ever. With these conditions, the garden will not fail to bloom a month later than usual. I have been gathering notes of the seasons in various parts of the same latitude, and fancy that comparisons would reveal that we can have out door pleasures, flowers being the chief, much later and earlier than is commonly supposed. Hardy plants are what we must secure for northern gardens. Our wild plants give us some fine favorites that blossom to the edge of winter. Every effort should be made to grow mats of *Epigæa repens* in shady corners, in baskets of forest earth sunk in the ground with care. The native evergreen Laurel is beautifully fresh among snow banks, and the Periwinkle, or Creeping Myrtle, though not a wild plant, runs wild in sheltered nooks. Wild Violets, especially white ones, and the large Dog Violet of the prairies, afford both spring and autumn bloom, and the deep blue bell of the Consumption Weed, which makes beautiful the northwest slopes in November, should be taken into prime favor for the garden; likewise the blue Gentian and the silvery-leaved Asters of the northwest. Coming to cultivated plants, I have found Pansies open out of doors in January of a Wisconsin winter on the open prairie; and the Hellebore, or Christmas Rose, ought to be in every home garden for its brave delight. The evergreen Honeysuckle puts out its tender shoots every month, keeping alive our sense that vitality and growth are still possible in the world which seems so dead. An English authority mentions among winter flowers the Jerusalem Sage, *Phlomis fruticosa*, also the *P. herbaventi*, or Wand Flower, with its pink blossoms, also the old fashioned White Pink. Polyanthus, Auriculas, Daisies, Creeping Phloxes, autumn Anemones, garden Hyacinths, Crocus, Cyclamens and Dog Tooth Violets will take leave to open in sunny, sheltered borders, whenever they can get a mild month, and Lilacs flower early and late, if well cultivated. The Crocus are peeping in purple and yellow in Beacon street gardens on the east of the hill a month before they are out in the country. We want a list of the hardy evergreens to brighten our grounds with something beside the

formal Arbor Vitæ and Spruce. Why must there be such monotony in winter grounds? Spruces are handsome and courtliest of trees, but a score of Spruces on a lawn give rather a heavy outlook where it would be finely relieved by spiry Cedars and the black green of the Cypress. Why can't a person of poetic tastes have the Portugal Laurels, which make English gardens beautiful, and list the "dry tongued Laurel's pattering talk," as he paces down the winter walk at noon. Why have not all grounds the Mountain Ash to make winter gay, and why, why have we not the California Arbutus, most beautiful of trees, with its leathery, deep leaves, freshest in December, and its brilliant clusters of crimson berries, as I remember it jutting out from the coves of the Contra Costa hills, last winter. A few such trees on the lawn would persuade one that winter was abolished. It is only one winter out of ten that is hard enough to spoil plantations in Massachusetts, and two winters out of three are mild enough to bring the Pansies and Mountain Daises out during the January thaw. The herbs give good account of themselves in winter, especially the Rosemary, which ought to be more at home in American gardens. Sweet Marjoram pushes its rosettes through the snow, as if anxious to be growing. The French Clover, if it is not green, spreads fragrance over the beds from its dry branches. I have found its sweetness pursuing me over snowdrifts when hardly a stem was visible. This plant, like Lavender, is one of the necessities in every home garden.

Do not insist that the winter garden must be a place of death, deserted. I write of what grew in a Wisconsin flower plat twenty years ago, sheltered by the house on one side and the young orchard fifty feet behind it. Some nook or border is available in the angle of the house and extension, or by a shed and fence corner, where a few boards or vine branches and sods would keep hardy favorites alive. A flower from out doors in winter is God's messenger, possessed with a fragrance and suggestion that are far beyond mere summer pleasures. Women and children in quiet homes cannot do without the sweet excitements of waiting and watching the winter blossoms, all the better that it takes them into the open air

to visit and tend the cold-frame, sod-frame or the south border.—SUSAN POWER.

TO KEEP CHOICE FRUIT.

The old orchardists understood well the flavor of a fine Apple, Peach or Pear, and the way of handling such fruit. They have not much to learn of modern skill, which, with all its labor-saving inventions, must draw its refinements of taste and careful art from more leisurely times. Some of the traditional ways of keeping fruit may be of use to those who have no fruit rooms. The best way is to pack it in stone or earthen jars, with a layer of bran, dried in the sun or oven, in the bottom of the jar. Only sound, perfect fruit should be packed, either Apples or Pears, and should come directly from the branch and the sun, as dry as possible. Put a layer of fruit in the wide jar, handling very carefully; pour bran over to fill the spaces, and cover all an inch, then more fruit and bran, shaking the jar softly to settle the contents. Have the bran smooth at top, lay in a piece of bladder or oiled paper to keep the air out, and cover close. Keep in a cool, dry place. This is easier than canning, and keeps flavor better for dessert fruit. All imperfect or bruised Apples can be pared and made at once into Apple-butter, stewed and canned for pies. I never would sell Apples at a dollar a barrel when canned Apples are thirty cents a gallon, and Apple-butter is eight cents a pound. Orchard regions need their canneries and fruit butter makers as regularly as dairy townships have their creameries and cheese factories.—S. P.

GERANIUMS FROM SEED.

I see in the correspondence of the September number of the MAGAZINE, page 288, the question is asked, will Geraniums and Dahlias from seed bloom the first summer? The answer is, no; but I say, yes. I have seen Geraniums bloom from seed the same season, when sown very early. As for Dahlias, I have had them in bloom for more than a month past, both double and single, from seed sown in a hot-bed the last week in March. Three or four of them are beautiful, as double as the best from bulbs. I would like for I. M. P., and other readers of your MAGAZINE to know these facts.—L. O., *Newburgh, N. Y.*



NOTES FROM "THE GARDEN."

GOLDEN ELDER AND FOXGLOVES.

Golden Elder and Foxgloves are employed with charming effect in shrubberies at The Cedars, Harrow Weald. Throughout the whole of the summer months a new character is given to banks and beds of shrubs by the bright golden leaves of the Elder, and the tall spikes of the Foxgloves appearing above the more sombre-tinted foliage of the other shrubs, thus breaking in a very pleasing manner that sameness of appearance which generally exists both summer and winter where dense masses of shrubs are employed. The effect when viewed from a distance is equally good as when seen near at hand, the golden tint of the Elder looking bright as far off as the eye can reach. As the leaves fall the Foxgloves are cut down; therefore, there is no undue crowding or spoiling the shape of shrubs, and even where the golden Elders are growing the knife is unsparingly used to keep them within bounds. What, too, used once to be an awkward corner of the fine old garden has been transformed into a pleasant cool retreat by the formation of a rockery furnished with Ferns, Foxgloves and other hardy plants, and overhead are a few rustic arches covered with Roses and Woodbines—a charming combination.

SWEET LAVENDER.

All of us may not wander along the sandy Surrey lanes, near Mitcham, during the Lavender harvest, when the evening air is redolent with sweet odors, but in every cottage garden the Lavender bush should find a place. In some old-fashioned gardens, on dry soils, we have seen long lines or hedges of Lavender and Rosemary "all for delight," as PARKINSON so often says in his "Garden of Pleasant Flowers." In the olden time,

when every country house had its still-room, there was no dearth of sweet herbs and blossoms grown for the home making of perfumes or sweet waters. There were no Piesses or Rimmels in those days, and so in all old gardens of note there was a closer connection between the flower garden and the still-room than in our own time. Of Lavender, Rosemary, Lemon Thyme, and Sweet Roses there was no stint, and, of all the sweet-smelling things, Lavender was not the least highly prized. Even to-day the best Mitcham-Lavender water ranks as high in estimation and value as Eau de Cologne, but time was when dried bunches found a place in every chest and drawer and wardrobe alike, and snowy linen had ever among its folds some fragrant memories of the garden. Even to-day in summer time it is customary to burn the prunings of Rosemary and Lavender bushes in the breakfast room grate, thus adding a breath of balmy freshness to the house, a whiff of incense which otherwise would be wanting. The chemists tell us that sweet herbs and many blossoms add ozone to the surrounding air; if this is true, our houses and gardens alike cannot well be too full of nature's own perfumery.

TREATMENT OF ROSES.

Mr. PETTIGREW, of Cardiff Castle, who lately received the gold medal of the National Rose Society and a silver cup for the excellence of his Rose blooms, told me the other day that he never at any time dug amongst his Rose trees, but fed them sumptuously by means of surface mulching and heavy top-dressings. That this treatment suits them admirably there can be no doubt, as of all the Rose plants I have seen this season, or for some years back, none have been so strong and healthy as those at Cardiff Castle.

CLEMATIS JACKMANI.

This well-tried old variety is of all garden Clematises perhaps so far the best for general decoration. It grows freely in rich deep soils and is at home everywhere in beds or borders, on wires or other trellis work, or on old tree stumps, dead bushes, or as trained on walls. The other day I saw a plant of it which had been planted along with the silvery-leaved variety of *Acer Negundo*, and the effect was very pretty; but on a wall, along with golden-leaved Ivy, the plant is still more showy, and in Battersea Park it is effectively combined with bushes of the golden-leaved Elder. Now, of course, we shall all be very anxious to secure the white-flowered *C. Jackmani alba*, for which Mr. NOBLE received a first-class certificate at South Kensington quite recently. Planted together, the purple and white forms would be most charming. How rarely now-a-days do we see the double variety of *C. Viticella*, which is most floriferous and of a mouse-colored purple hue.

GALTONIA CANDICANS.

It seems to be generally thought that the name *Galtonia* should supersede that of *Hyacinthus*, as applied to the autumn Spire Lily. It is now a well known and much admired plant in all good gardens. I think it was Mr. COOPER who discovered it or who introduced it from the Cape to the late Mr. WILSON SAUNDERS' collection, and I have somewhere read that it naturally grows in very light and loose soil—so light and open indeed that in collecting the bulbs the hand could be thrust down quite easily to the depth of a foot or so where the bulbs were. This contains a hint for cultivators, some of whom have now and then complained to me of the failure of imported bulbs. Here a hole is dug a foot deep and three bulbs placed therein on a layer of coarse dry sea sand; more sand is placed over the bulbs, and the holes are then filled up with leaf mold instead of the ordinary soil. So treated, not one good bulb in fifty will fail to grow and flower.

SOME ANNUALS.

A border in Hyde Park has been very prettily covered with Sweet Alyssum and Mignonette of late. Here and there a few Zinnias came through the mass and varied it a little; both color and odor

were good. The same idea carried out with other annuals would be excellent. It is the thoughtless repetition of the same notes that does the harm. By choosing annuals and different mixtures and combinations of them, endless charming effects might be obtained, but the borders should be cultivated and exposed to the sun as this border is. It does not want much trouble or thought to introduce annuals in a really effective way in our gardens. They would help both the bedding plants and the hardy flowers proper, and come in very well in early autumn and late summer.

INTERNATIONAL SHOW IN 1885.

We learn from the *Journal of Horticulture* that a project is entertained to hold an International Horticultural and Forestry exhibition in London, during the spring, summer and autumn of 1885. The journal mentioned is in favor of making it an exhibition of "horticulture, forestry and vegetable products." This would give a wide scope, and induce a mammoth collection from all parts of the world. Ornamental plants and flowers would be brought in on certain days throughout the season.

LARGE-FLOWERED CALLA.

A writer in the *Revue Horticole* describes a large variety of the Calla, called *Richardia Ethiopica maxima*. The plant was brought to France from the Island of Madeira in 1878. A spathe is described that measured nearly ten inches in length, and nearly seven inches across, with proportionally large leaves, and raised in relatively small pots. It is thought that this variety will take the place of the type when sufficiently well known. This variety bear forcing as well as the type, and flowers freely.

APPLES IN ENGLAND.—The Apple crop in England has been an abundant one this year. The importance of this fruit is so great that a "National Apple Congress" has been called, which at the time of this writing is in session at Chiswick.

FORESTRY EXHIBITION.—An International Forestry exhibition is to be held in Edinburgh next year, with the consent and patronage of the Queen.



INDIAN SUMMER.

Michaelmas Daisies abloom in the meadows,
Golden Rod glory in forest and glade,
Sumach ablaze in the duskiest shadows,
Sunflowers flaunting in sunshine and shade!

Never a hint in the blue sky above me,
Never a lisp in the ambient air,
Never a token by fountain or streamlet,
That this marvelous world will not long seem so fair.

The volume of nature wide-spread lies before us,
A message is there, sad as language can yield,
In letters illumined, and who runs may read it,
Sentence of death on the page of the field.

Only Blackberry vines flaunt their branches,
Only the trees wear their holiday dress;
Only the sun shines with brighter refulgence:
Only the breeze comes with cooler caress.

But by these signals we know there's approaching
Winter—insidious, pitiless foe—
Who will lay waste all these glorified meadows,
And wrap a white shroud round the valley below.

And though the winter shall tell the sad story
Of death to the blossoms and meadows of gold,
Yet shall the spring-time, with all renewed fervor,
A message far sweeter for us soon unfold.

—DART FAIRTHORNE.

GALTONIA—CLOSED VIOLETS.

I received from you, last spring, a Hyacinthus, or Galtonia; it began blooming the first of August, and made forty-four bells, the last of which, still hanging, is exactly five feet high. Another stalk began blooming the first of September, and bids fair to out-rival the first. One friend called it "Lily-of-the-Valley-as-high-as-your-head," and said it was "something-like;" another said, "Tuberose with pendulous bells; well, that is lovely." I have some double Violets, large, strong plants, from seed last year, that never bloom, but in some way make any quantity of seed; will it ever blossom, and will the seed grow and make blooming plants? When should Galtonia seed be sown, and how long will it take to bloom? Please answer in the MAGAZINE.—E. E. J. B., *Serena, Ill.*

Our friend should remember that seed without flowers is impossible. If the Violets produce seeds, they most certainly have bloomed, but in this case the flowers have not been noticed. The fact is, the flowers had only a green

calyx that never opened, and were without petals, so they would not be very apt to be seen. DARWIN called such flowers "cleistogamic," meaning closed. Such flowers are something produced by several other kinds of plants, and are subjects that greatly interest scientific investigators. A case similar to this was noticed and explained on page 391 of the last volume. We cannot say whether these plants will or will not ever produce perfect flowers. Usually the plants that bear these closed flowers have also perfect ones, at least at some seasons. The case offers a fine opportunity to study this peculiar phase of seed-bearing. Seed of *Galtonia candicans* can be sown at once in a fine, mellow spot in the garden. Cover with soil from a half inch to an inch in depth, and place a few leaves over to protect somewhat from frost.

PROPAGATING LYCOPODIUMS.

I admire your MAGAZINE very much. Will you tell me in your next number how to propagate and raise Lycopodiums. I think it is started from cuttings. Am I right? Does it require a greenhouse for propagation, or can it be started in a cold-frame or hot-bed? What is the proper season for starting it from cuttings so as to have it at its best in September? I think you would be doing your readers a favor if you would give the prices of the books &c. noticed in your MAGAZINE.—E. P. W., *Rockland Mass*

Lycopodiums and Selaginellas are propagated freely from cuttings. A propagating house or frame, with a slight bottom heat, is best for the purpose, but there will be no difficulty with careful management of striking the cuttings in a hot-bed. These plants improve with age for several years, if properly treated, and cannot be at their best in a few months. Cuttings can be started to best advantage after mid-winter and during the spring. Prices of books are mentioned when known.

POINSETTIA—HIBISCUS.

Will you be so kind as to inform me, through your MAGAZINE, if the same bulbs of Tuberose will blossom more than once, and what to do with them after blooming? Please give me the origin of Poinsettia, its treatment before blooming and after, and when and how to make it throw out branches. Is it subject to insects of any kind, and how can I get rid of them? My Achania, that you sent me, this fall, is covered with a tiny chrysalis, which I do not understand, as you say it is not subject to insects of any kind. What shall I do with Hibiscus Moscheutos raised from seed, last spring? Can I have any success with it in the house this winter?—MRS. J. J. H., *Stillwater, N. Y.*

Tuberose bulbs are considered worthless after once blooming and are thrown away. The Poinsettias are natives of Mexico. Poinsettia pulcherrima is the one most cultivated. The simplest way to raise them is to set the plants out of doors in good, rich soil, in the spring, after the frosts have passed, and leave them until September, or until cool nights come, and then take them up with soil attached and pot them or place in boxes. They need a greenhouse temperature. They will grow to a much larger size if planted in beds of soil in the greenhouse. During their growth they must be liberally supplied with water. After flowering cut back the new growth within two buds of the old wood, and remove the plants to a place where they can be kept dry and secure from frost. The plants are subject to the ordinary greenhouse insects, from which they are defended by the usual means. The Achania leaves frequently show small white grains which they secrete; if this is not what is referred to, then we can decide what it is only by examination. Hibiscus Moscheutos should be kept quite cool until toward spring. It might stand in the cellar and have a little water occasionally. In March bring it to the light, and give water freely as growth proceeds.

TREES IN THE NORTHWEST.

What varieties of trees would you advise to plant in the severe climate of the Northwest Territories, that is, Manitoba and adjacent region? I wish to know what varieties you think best adapted for general planting, that will withstand their severe winters and thrive. I am interested in tree planting there through a friend, and would be thankful for any information on the subject. It is getting to be a very important question to the people of that country. N. F. B., *Foxboro, Ont.*

The most reliable information on this subject is that supplied by the report of Dr. ROBERT BELL, Assistant Director of

the Geological Survey of Canada. From this and the accompanying map, it appears that with the exception of a small area in the eastern part of Manitoba, where the White Pine and Red Pine and Red Cedar and Black Ash grow, the native trees that flourish are Basswood in the southern part, and elsewhere Burr Oak, Green Ash, Ash-leaved Maple and White Elm up to the North Saskatchewan River. Above this the trees are Balsam Fir, Balsam Poplar (*Populus balsamifera*), Aspen (*Populus tremuloides*), Canoe Birch (*Betula papyracea*), American Larch, and Black and White Spruce. Besides the above, Dr. BELL states that the Wild Plum (*Prunus Americana*) "occurs on the Rainy and the Red Rivers, and the lower part of the Assiniboine and at the south end of Lake Manitoba." The Black Alder (*Alnus incana*) is "abundant along streams everywhere from New Foundland to the Saskatchewan and as far north as the forests extend." Large trees of Cottonwood occur along the Assiniboine River. "Pinus contorta is found in the western part of the Northwest Territories." Engelmann's Spruce (*Abies Engelmanni*) is said to be found on the upper waters of the South Saskatchewan. What foreign trees will thrive there cannot yet be known. We should expect Norway Spruce to flourish.

PANSIES IN WINTER.

Please inform me how to preserve Pansy roots through the winter.—MISS B. S., *Lake Park, Minn.*

We are not aware that there is any difficulty in keeping Pansy plants in winter in Minnesota. On the contrary we understand that hardy plants of low growth are more secure in winter in Minnesota than they are in this locality, where we give Pansies no protection. The snow will sufficiently shelter them. Possibly damage may be done to them in spring by frequent freezing and thawing after the snow is gone. If this is the case, the remedy would be a cold-frame.

WINTERING DAISIES.

What is the best and safest way of keeping double Daisies over winter? Last fall, I covered them with leaves, and they all were gone in the spring. I procured more and want to winter them, if possible.—T. A. McC., *Stanley, N. Y.*

Leave the plants exposed.

QUERIES.

1. You say get Japan Quince three years old from the nursery to set out, and it will require five years to form a hedge. Is it five years after setting out, or five in all?

2. How will Sweet Brier do for an inside hedge to separate the garden and the lawn in New England. It is recommended for the purpose.

3. Is bone-dust advisable as a summer dressing for Strawberry plants, either before or after fruiting?

4. Will you say when Alpine Strawberries should be planted, in spring or fall, or do they fruit the same year from seed?

5. I am greatly pleased with the descriptions of some old-fashioned English flowers, and would like to know if they can be found at florists' in this country. Have we the sweet Dame's Violet of cottage gardens; the Flos Jovis, a late growing plant; the scented Dittany, or Fraxinella, with scent of Lemon Verbena?

6. What is the white June Gladiolus, and do we know it by any other name?

7. Is the *Sternbergia lutea* grown here? It is said to be the Lily of the field mentioned in Scripture.

8. Please tell me about the White Arabis, which is raised for its fragrance.

9. What are Jerusalem Sage, (*Phlomis fruticosa*), and the Globe Flower, (*Trollius Europæus*), and the Sweet Cicely like? I see the latter called Sweet Fern in a botanical article in *Science Gossip* for 1879, but it is not our Sweet Fern. The Cicely is *Myrrhis odorata*, one of the umbelliferous plants, and our Sweet Fern belongs to the *Myricaceæ*. We can't have too many fragrant, aromatic plants, and I, for one, am anxious to possess all the country affords.

10. Is the Scarlet Sweet Brier striking or beautiful enough to account for its high price?—P.

1. It will require five years to make a fair hedge of Japan Quince, whether the plants are two or three years of age when set. It makes but little, if any, difference whether two or three years old.

2. Sweet Brier would probably make a fair ornamental hedge. One of the best plants for this purpose in New England, besides the Japan Quince, is the European Hornbeam.

3. Bone-dust is a good manure for Strawberry plants, and should be applied early in spring.

4. Alpine Strawberry plants can be set either in spring or fall. If set in the spring they may give a few berries in the fall, but cannot bear their usual quantity, which is never much, until the second season.

5. Dame's Violet is *Hesperis matronalis*, or Sweet Rocket; by Flos Jovis is no doubt meant *Lychnis Flos-Jovis*. Scented Dittany, or Fraxinella, is *Dicamnus Fraxinella*; any of them are easily obtained of seedsmen and plant raisers.

6. The White June Gladiolus is probably a white variety of *Gladiolus communis*, a European species but little

cultivated in this country; but the bulbs can be obtained in the fall from parties who make a business of dealing largely in herbaceous perennials; the bulbs are also sent here to be sold by the Dutch bulb growers. The bulbs are hardy and are left in the ground during winter, in fact, they can remain several years, or until it is necessary to remove them to give more room.

7. *Sternbergia lutea* can be had of many bulb dealers in the fall. What is the Lily referred to in sacred writings in the expression "Lilies of the field," is unknown. Several plants have been accorded this honor, among which are the purple Iris, the Lily of the Valley, the Tulip, and *Lilium Chalcedonicum*.

8. *Arabis verna* and *A. alpina* are low-growing herbaceous perennials, bearing pure white flowers, fragrant, and much employed on rock-work. Cruciferous plants.

9. *Phlomis fruticosa* is a shrubby species of *Phlomis*, which is a member of the Labiatae, or Sage order of plants. It is a native of Europe, and is hardy in England and in the milder parts of this country, but is not much cultivated at the North. The color of the flowers is a rich yellow, and the plant is valuable where it can be raised. The Globe Flower, *Trollius Europæus*, is an Alpine plant of the Ranunculus family, that blooms early in spring; the flowers are large and of a beautiful yellow. We do not know where in this country it can be obtained. *Trollius laxus* is a native species found in swampy places from Canada to Delaware, but is rather rare; it can be cultivated in moist ground. The European Sweet Cicely is *Myrrhis odorata*, and the Sweet Cicely of the shops in this country is *Osmorrhiza longistylis*, an Umbelliferous plant. Sweet Fern is *Comptonia Asplenifolia*.

10. If by "Scarlet Sweet Brier," in the last question, is meant *Rosa rugosa rubra*, it may be said that the flower is beautiful and the plants scarce.

THE ALOE-LEAVED YUCCA.

Will you please to inform me if I can keep *Yucca aloifolia* in a light, airy cellar? I have one which is so large that I prefer to do so if I can with safety.—MRS. O. H. Y., *Williamsport, Pa.*

If the cellar is secure from frost, otherwise being as described, the plant may be safely wintered there.

RHODODENDRON—AZALEA.

In the last part of April, in the present year, I received from England two *Rhododendrons*, *Catawbiense* hybrids, *Everestianum* and *atrosanguineum*, and one *Kalmia latifolia*, apparently in the best condition. I planted them in a mixture of leaf mold, yellowish loam and sand, and they bloomed beautifully and made a very fine new growth. A few weeks ago, when I examined the plants closer, I was surprised to observe the bark of the last year's growth brownish-black and almost dry; the leaves of the *Rhododendrons* look unhealthy and are covered with very fine, white, dust-like spots. The growth of this year, however, has still a healthy appearance. I think these beautiful, noble shrubs can not be saved. Yet, do you know any remedy? The beautiful, admirable Mountain Laurel, *Kalmia latifolia*, is in the same unhealthy condition. A native *Azalea*, *A. calendulacea*, and a species of the same genus from China, the dwarf *Azalea amœna*, in the same bed thrive well. I am very much disappointed, having the impression that *Rhododendrons*, *Kalmias*, *Andromedas*, *Azaleas*, *Ledums*, *Arbutus*, *Arctostaphylos* and other plants belonging to the *Rhododendron*, or *Ericacæa*, family will not grow in this dry western part of our country. I would like to know if any one of your readers in Missouri, Illinois, Kansas, or even in Indiana, Michigan and Wisconsin has *Rhododendron* beds, and if the results give satisfaction. The magnificent, glorious *Rhododendrons*, *Kalmias* and many other plants of the *Ericacæa* family should have more friends and should be grown more generally in this country, but I think they are much neglected. Mr. EDWARD SPRAGUE RAND's admirable and fascinatingly written little volume, "*Rhododendrons and American Plants*," should be in the hands of every lover of the beauties in nature. I wish you would give in your highly esteemed, charming ILLUSTRATED MONTHLY MAGAZINE, now and then, rules for planting, preparation of soil, list and description of varieties, list of other plants that can be grown successfully among *Rhododendrons*. It must be a wonderful and magnificent sight to see *Lilium auratum*, *L. Szovitzianum*, *L. Washingtonianum*, *L. Humboldtii*, *L. Parryi*, and other Lilies blooming among these beautiful evergreen shrubs. Will *Arctostaphylos glauca* (*Mazanita*), and *Arbutus Menziesii* (*Madrona*), be hardy in this locality? It would be a great acquisition to *Rhododendron* beds if these beautiful California shrubs can be grown in the east. Please answer in the next number of your MAGAZINE. The subject may prove interesting to many others.—H. NEHRLING, *Pierce City, Mo.*

We all know some of the difficulties encountered in rearing the plants of the class mentioned above, and that although foreigners have styled these plants pre-eminently "*American Plants*," yet the localities in this country where they will thrive are few, and restricted in area; the soil or the climate, or both of these, are unsuitable to them in most parts. In certain localities they thrive in a natural state, and there they should be important plants in cultivation. We know of no better way to obtain a full understanding of the difficulties encountered and the success attained in the cultivation of

these plants than for our readers who are, or have been, cultivating them to send us reports with full details in regard to them for publication. We have not known of the cultivation of the *Manzanita* and the *Madrona* in the open air, except in the Pacific States. North and South Carolina, Georgia, Alabama and Tennessee undoubtedly possess localities particularly favorable for the cultivation of these plants. Some parts of Virginia and Pennsylvania are also very probably suitable. Any of our readers having experience with these plants will please confer a favor by communicating with us in regard to them.

GRAPE VINES—HEDGE.

Could you not point out in the next number of your MAGAZINE some directions about planting and trimming Grape vines intended to give fruit for the table. The main points of practical interest would be the choice of the ground, manuring, distance between the plants and especially trimming. This information would be a natural complement of the interesting remarks published in a previous number of the MAGAZINE about the manner of propagating the vines by cuttings. I would like to follow your instructions on these points, and be glad to succeed as well as I did in planting and trimming, according to your method, an Osage Orange hedge, which is now three and a half years old, and perfectly compact, so that next summer we intend to remove the fence so far kept for its protection along the turnpike. This year, as well as the preceding one, the hedge was trimmed twice, once early in spring, then early in July. How should it be treated henceforward? Should the two trimmings be continued? If only one be needed, what time would be the best for it? The Dahlias I got from you, last spring, are a perfect success, and the Tulips that had failed the first season after planting did well the second.—S. G., *Elliott City, Md.*

In the same volume as that containing the article on hedges, here referred to, volume 4, 1881, our inquirer will find very full information in regard to planting, cultivating and pruning Grape vines. It is, in fact, much more complete than our space would now allow in this issue. In our next volume, we expect to lay before our readers the experience on this subject of some of our readers who are most qualified to give it. The trimming of the hedge mentioned should henceforth be the early spring pruning before the leaves appear, and the mid-summer pruning after the wood has become firm, cutting it within a few inches of the spring pruning. Whenever the hedge becomes too high, cut it down as low as desired, and thus renew it.

BULBOUS PLANTS.

Last winter I bought a plant called the Yellow Calla; is it really a species of Calla? How can I make it grow? It has not grown more than an inch since that time. Two years ago I purchased a plant called *Crinum pratense canaliculatum*. What kind of flowers does it have, and how can I make it bloom? I have had two *Auratum* Lily bulbs and both of them rotted. I set them out in the spring. Would they do better planted in the fall? Nearly every person around here who cultivates flowers has a kind of *Amaryllis* that grows about a foot high, with scarlet flowers. Is that *Vallotta purpurea*? When does *Amaryllis Johnsoni* bloom? I do not think I will do without your MAGAZINE, as I get a great deal of valuable information from it.—H. H. S., *Byron, Illinois*.

The "Yellow Calla" is undoubtedly the plant that has been sold for a few years past by some plant dealers as *Calla hastata*. Like the other plants cultivated as *Callas*, it is a *Richardia*. It is said to be best to allow it to rest for some time in winter. With this view it will be proper at this time to give but little water, only enough to support it without growth, and to keep it in quite a cool place until mid-winter. A temperature of forty-five degrees will not be too low. The *Crinums* have blooms quite similar to the *Amaryllis*. If the plant mentioned is *C. capense*, or a variety of it, instead of being as named (about which there is some doubt,) it will be proper to keep the plant in a temperature of 50° to 65° during the winter, and in March to repot it in a large pot, at the same time shortening in the roots. The proper soil for it is equal parts of rotten stable manure, sand and leaf mold, and as much loam in bulk as the other three combined, all well mixed together. If the soil is dry, or properly drained Lily bulbs can be planted in the fall or in the spring. *Vallotta purpurea* is becoming quite common, and answers the description given above. *Amaryllis Johnsoni* can be made to bloom at almost time.

ERIANTHUS RAVENNÆ.

Could you oblige me by answering the following questions in the columns of your MAGAZINE? In the spring of 1882 we purchased of Mr. VICK three roots of the *Erianthus* grass, expecting them to bloom in the fall. One died soon after planting, and another this spring, but the remaining grass is as strong and vigorous looking as could be desired, but it has not blossomed either last fall or this. What is the reason? It is a great disappointment to us. There are several of the same kind in our neighborhood that are no larger nor better looking than ours, but they are in full bloom. It is planted in a sunny spot at the back of the garden, about two to three feet from the fence. What conditions suit this grass, viz., sun

or shade, dry or moist, rich or poor land? It has good earth round it now, and its non-flowering is a mystery to us. Are we too impatient? By endeavoring to answer some of these questions you will greatly oblige some flower lovers.—E. M. K., *Albany, N. Y.*

The summer of 1882 was very dry, and last winter was both dry and unusually cold. Many of the hardiest trees and plants died, and nearly all suffered more or less injury. If the horticultural history of the country could be written in detail it would undoubtedly be found that we never before have experienced a year so disastrous to vegetation. One of the plants here mentioned could not stand the dry weather the first summer, another perished in the winter from combined effects of drought and cold, and the third, though living, has been able only to recover from the effects of its removal and endurance of unfavorable conditions, without blooming. This plant has now, probably, recovered its vigor sufficiently to bloom next year if no casualty befall it.

BASKET PLANTS—WINTER NEEDS.

Will you kindly give information as to the best drooping foliage and drooping flowering plant for hanging baskets, and their treatment? What is the best way to preserve *Caladium* bulbs through the winter, also *Caladium esculentum*? Can Monthly Roses be wintered out-doors by pegging down and covering?—Mrs. E. A., *Oxford, Ont.*

Some of the best trailing and twining plants for baskets are German Ivy, Kenilworth Ivy, *Vinca major variegata*, *Vinca Harrisoni*, Ivy-leaved Geranium of many varieties, *Nolana*, *Thunbergia*, *Othonna crassifolia*, *Tradescantia zebrina* and *T. multicolor*, *Saxifraga sarmentosa*, *Ipomœa Quamoclit*, Madeira Vine and varieties of *Tropæolum majus*. The proper treatment of all these is given in our publications, but manifestly it cannot be introduced here. *Caladium*, or *Calocasia esculentum* tubers can be covered with sand in a dry place secure from frost, and in this way will keep until wanted in spring. The fancy-foliaged *Caladiums* are kept over winter by allowing them to remain in the soil in which they have been growing, but kept dry and in a temperature of not less than 55°. If they have been removed from the soil place them in sand. Be sure and keep them dry, or they will be almost certain to rot. Most Monthly Roses can be sufficiently protected by a covering of leaves to be secure from injury from frost during winter.



A GARDEN IN INDIA.

The interesting view of a garden in India here presented is something strikingly unlike anything we are accustomed to see. Water is a feature in ornamental gardening in that country that is highly prized, and is always introduced, if possible. The raised paths, or walks, through the water, leading to the arbor

under the tree are simpler than bridges, but to our eyes are not in good taste, indicating, as they do with certainty, the extreme shallowness of the water. The Palms in the background are strange objects to northern eyes. The Hindoos are fond of gardening, and many beautiful places exist in their country. An English writer who had resided in India,

says : " With regard to plant life, it must be borne in mind that in the creed of the Hindoos, even plants may be permeated by divinity, or possessed by the souls of departed relatives. No Hindoo will cut down the divine Tulse, or knowingly injure any other sacred plant. As to the holy Pipal, it may indulge its taste for undermining walls and houses, and even palaces and temples, with perfect impunity. Happily there is a limit to even the most pious Hindoo's respect for plant-life. Palm trees are ubiquitous in Southern India, and yet the eye never wearies of their presence. One hundred and fifty different species may be seen in Ceylon, among which the most conspicuous are the Cocconut, the Palmyra, the Date, the Sago, the Slender Areca, and the Sturdy Talipot, often crowned with its magnificent tuft of flowers, which it produces only once before its decay, at the end of about half a century. Avenues of Palm trees overshadow the roads and even line the streets of towns. The next most characteristic tree of Southern India is the Banyan. The sight of a fine Banyan tree is almost worth a voyage from Southampton to Bombay, and it can only be seen in perfection in the south. One which I saw in a friend's compound in Madura, was one hundred and eighty yards in circumference, and was a little forest in itself. Then there is the beautiful Plantain, with its broad, smooth leaves, rivaling the Palm in luxuriance and ubiquity. Then one must go to Southern India to understand how the Lotus became the constant theme of the Indian poets, and the symbol of every thing lovely, sacred, and auspicious. Space, indeed, would be denied me if I were to tell of groves of Mangoes and Tamarinds, clumps of enormous Bamboos, gigantic creepers in full blossom, Tree Ferns, Oranges and Citrons, hedges of flowering Aloes, Cacti, Prickly Pears, Wild Roses and Geraniums; or even if I were to descant at large on such useful plants as Coffee, Cinchona, Tea and Tobacco."

NATURE IN ENGLAND.—The article with this title in the current number of *The Century* is admirable in reading matter and engravings. One needs but a glance to be aware that JOHN BURROUGHS, that true lover of nature, is the author.

THE HARVEST FESTIVAL.

As the holidays approach, our thoughts turn to the subject of the floral decoration of our homes and churches. The practice of giving these days special notice by appropriate ornamentation with flowers, fruits, grasses and branches of evergreens has found favor in most civilized countries. It is proper that they should be distinguished in this manner. Our great harvest festival approaches, an event celebrated in our churches, and by the social gathering of the different members of families under one roof. So much has already, at different times, appeared in our pages on this subject that it is unnecessary at this time to enter upon it in its details. One thought only will be suggested, which is, in all these displays, taste and skill should predominate in the employment of all the materials; but by all means, whatever may be the resources, avoid a mere exhibition of wealth. This is offensive to every well-regulated mind.

Thoughts of Thanksgiving Day may come to many in our land, associated with the memory of death and disaster, of ruined homes and crops, and less of material prosperity than formerly, for we have had a year filled with numerous and unusual calamities, and our harvest has been unexpectedly light. Let such turn away from their individual experience and look abroad over our land. As an independent nation we have now occupied a position in the world for a century, and our influence is everywhere felt. Not in a spirit of vanity, but with a deep sense of our responsibility, may we rejoice that the people of this country are solving, and are destined to solve, social problems that shall eventually elevate the whole race of man. Personal, social and national purity should be the high aim of every individual in our community, and with such endeavors we may mingle with our fellows with helpfulness and cheerful spirits.

The weather, this season, that has so unfavorably affected our crops, has, no doubt, been caused by forces which, if we could understand them, would be found to be those that have hitherto conspired to give this country its usually desirable climate, and which, undoubtedly, awaits us in the future. Let us, therefore, with a grateful spirit, accept trials as blessings in disguise.

SOME OF THE NEW GRAPES.

Having had opportunity, this fall, of testing the comparative merits of the Niagara and Pocklington Grapes by daily use, we give our opinion to the public for what it may be worth. These varieties, which are similar in many respects, both being white, and both strong, vigorous, hardy and productive, both producing large bunches, have been regarded as rivals. In quality they are very similar, though we think the Pocklington to be a slightly better fruit, inasmuch as it has less foxiness. In flavor and sweetness they are so near alike it is difficult to distinguish them; the time of ripening as near as we could judge was about the same for both, though of this point we are not certain. Niagara is a great name, and Pocklington a longer one; the honors are evenly balanced. One having either of these varieties would have no occasion for the other. It is possible that both of them may eventually prove valuable for wine, and both of them rank not above third rate for the table.

The Empire State was exhibited, not quite ripe, but appearing well, at the State Fair, in September. It is a large, handsome looking fruit. We had no opportunity to judge of its quality, which is claimed to be very good.

Better in quality than either of the above is the Prentiss. It is smaller in cluster and berry, but of good size, and the vines good growers and very productive. In our opinion this variety has a fine future before it.

Duchess, in this locality, maintains itself well, proving to be a healthy, vigorous grower and a large bearer. It will average a little smaller in size than the Prentiss, and somewhat larger than the Delaware; bunch and berry are of medium size. The quality is the best, and a near approach to that of the exotic, White Sweetwater. The fruit, though very delicate in appearance, bears carriage remarkably well. All of these white Grapes ripen about the same time, or with the Concord.

By the kindness of JOHN B. MOORE & SON, the originators of Moore's Early, we have been favored with specimens of their new white variety, the Francis B. Hayes; name given in honor of the President of the Massachusetts Horticultural Society. The bunch and berry are of medium size, often with a small shoulder;

color when ripe an amber, much like the Rebecca; the flesh is tender, juicy and sweet and neutral in flavor. The foliage is said to be healthy, thick, and free from disease. The vine vigorous and very hardy, and a prolific bearer, and the fruit to ripen from seven to ten days before the Concord. Its early ripening may make it valuable, though its quality is not high, and we doubt that it will hold its berries if transported far when ripe.

At the exhibition, early last month, of the Western New York Agricultural Society, Mr. CAYWOOD, of Poughkeepsie, the originator of the Duchess Grape, was present with that variety and three other of his new varieties. The finest of these is the Poughkeepsie Red, a cross between the Delaware and the Iona. The berries in color and size resemble the Delaware, but the bunches are much larger, some of the largest weighing a pound. The excellencies of the Delaware and the Iona appear to be combined in this fruit; the berries are bags of delicious juice. In quality this must stand at the head of our native varieties. It was evident from the loaded branches on exhibition that the vine is prolific. In growth of wood it is superior to the Delaware, making about half as much more in a season. Mr. C. informed us that the fruit never failed to ripen in August. The vines have not yet been sent out.

Ulster Prolific is the name of another red variety. It has not the high quality of the last one, but is good, in fact, only inferior to the best varieties. It is a cross between the Catawba and a wild vine of the *æstivalis* species. The bunch and berry are of medium size; fruit ripens with the Concord. It is said to be very prolific, and quite promising as a market variety.

Black Delaware is an attractive looking fruit, and the laden branches on exhibition indicated great productiveness. The clusters and the berries are of medium size, being somewhat larger than the Delaware. Fruit melting and good; ripening with the Concord. This variety is a cross between the Delaware and the Concord. Mr. C. is taking his own time to send out these varieties, and they have yet to stand the test of cultivation under various conditions, but apparently they will be important acquisitions to the garden and the vineyard.

ABNORMAL POTATOES.

We have seen and heard of several cases, this year, of Potato plants bearing small Potatoes in the axils of the leaves. The appearance of one of these specimens is here shown. The Potatoes would average in size from a small marble to an inch and a half in diameter, well furnished with buds; they were, in fact, fleshy branches, branches stored with starch. They differed functionally in no way from the ordinary tubers, and but slightly in structure. Such cases teach us visibly, and very forcibly, as vegetable physiologists have always said,



POTATO-STEM BEARING TUBERS.

that the Potato tuber is an underground stem or branch. It looks as if nature had made a mistake in producing tubers in this manner, for although in a mild climate, or one not visited by frost, tubers produced on the upright stems might aid in propagating the plants, yet the probability is far stronger that they would be eaten by animals; in a cold climate they would certainly be destroyed by frost. Growing underground the tubers are hidden from animals and protected from freezing. The true explanation probably

is that in cultivation we have constantly selected and bred those individually and varieties that most develop tubers, and this tendency now shows itself in the place of ordinary branches; moreover, this peculiar development would undoubtedly disappear in the progeny of these plants in a state of nature.

GOSSIP ON FERNS.

Mr. FARNELL, in his interesting letter, "An Old Man's Rambles," which appeared in the June number of the *MAGAZINE*, was asking something about *Dicksonia* (*Dennstædtia*) *punctilobula*. I have a specimen at present in a ten-inch pan, measuring seven feet four inches across, a perfect beauty. I treat the Fern as deciduous, allowing it to dry off, and giving it a cooler temperature for about two months in the winter, then bring it into heat and moisture, and when it shows signs of starting, repotting in a mixture of leaf mold, fibrous loam and sand. I give plenty of drainage and a copious supply of water with liquid manure twice a week through the growing season. I do not apprehend any difficulty if pieces are moved when just beginning to grow, and given plenty of water, a moderate degree of bottom heat to start new roots, and plenty of air.

I was glad to see our editor bringing *Pteris Aquilina* to the fore as a decorative plant in shrubberies and pleasure grounds. I can fully testify to its utility and beauty, having used it largely in *Rhododendron* clumps mixed with *Foxgloves*. When I was at Lord SKELMERSDALE's, where we had some miles of drives through the park and woods, we used to plant *Rhododendron ponticum*, *Azalea* and *Mahonia* in mixed clumps, interspersed with *Pteris Aquilina*, *Foxgloves*, *Lilies*, *Lastræa*, *Polypodium*, and *Blechnum spicant* on old roots and stumps. While there I planted some thousands of British Ferns, our own seedlings, on stumperies, rockeries, &c., and I can with pleasure give my voice to their beauty. Some of the mountains in north Wales is the home of the *Pteris Aquilina*, as I have frequently found great patches of it eight and ten feet high. One place especially, is in Capel Curig, about five miles from Snowdon; I ascended one of the lesser crests in the

great Snowdon range to get a view of the giant himself, and when near the summit I found myself in such a patch; their stems, if length and pliability were all, would have made first rate fishing poles, and the huge, wide-spreading fronds were something to delight the heart of the pteridologist. The secret of their marvellous growth was this: the clouds continually sweeping the hill-top made it a regular swamp, which, draining down and percolating through rocks, stones and peat, came out at this point as a spring, forming the nucleus of a bright, sparkling rivulet, which went laughing and frisking from rock to rock to meet the river Lugway, which sparkled in the valley below; this gave it all the requirements for splendid growth. When in Russia, about thirty miles from St. Petersburg, I came across great patches, hundreds of square yards in each, of the *Polypodium Dryopteris*, its black rhizomes sometimes coming up for six feet in a perfect mass. The hills of Cumberland, in the neighborhood of the Windermere lakes, used to be a good place for obtaining *Polypodium Phegopteris*, (*Phegopteris vulgaris*, of Smith,) but now it is getting very rare; so, also, I have seen the old banks and hedgerows in Cheshire covered with *Polypodium vulgare*. But alas, except in a few out of the way places, the plants are now scarce. In my boyhood, I used to know a bank where I could have filled a cart with *Blechnum spicant*, but these are also gone; also the vandals are not all dead.—WM. HY. WADINGTON.

CORN-COBS FOR CURCULIO.

Quite a lively, long discussion has been held in the California press in regard to the protection of Plums from the Curculio by the use of corn-cobs soaked in sweetened water. We do not exactly understand whether the cobs are laid on the ground around the tree, or tied about the stem or body, nor do we learn exactly how the protection is afforded; but it is stoutly maintained by those who have repeatedly witnessed the experiment, that the sweetened cobs do protect the Plum crop, notwithstanding a good deal of sarcasm and badgering they receive from those who disbelieve the efficacy of the so-called protection.

FLORAL NOTES.

We often see it stated in floral magazines that Dahlias will not flower the first season. I have settled that question to my own satisfaction. They will flower the first season under the most ordinary circumstances. Near the last of March, in putting in seed of Tomatoes, Cabbages, &c., for early garden, I found a little space left, into which I put a few flower seeds that had been sent me to experiment with; among other things a paper of mixed dwarf Dahlia seed. Eight of them came up as soon as the Tomatoes; three of them I took out and potted, placing them in a warm window. The others remained in the bed until the last week in May. Both lots grew stocky and strong, and were in blossom as soon as the roots kept over from last year. They were planted in a rude hot-bed made out of old window sash, and were considerably exposed during the cool snap in April. The row of seedling Dahlias, choice in variety of color, is as pretty as any point in my flower garden, and very interesting to me, as it settles a much disputed question.

Amaryllis, for early winter-flowering, should now be brought in and placed on a warm window shelf. Exposure these cold nights will injure the flower-scape which has already taken shape in the bulb. Those intended for late winter or early spring blooms should be brought into a warm, light situation, very moderately watered, only sufficient to keep foliage from flagging. When the earliest ones are ready to give way a little, these may be placed as desired into the most favorable situations. Every window-gardener knows how to push back and forward near the glass to suit the convenience of the plant. The window garden may be kept showy and attractive the year round by a judicious selection and arrangement of plants. Those for immediate effect always kept nearest the glass, except, perhaps, a few things which require partial shade even in winter. But this I have found by experience, that most flowering plants for winter rejoice in nearness to sunshine and direct rays of light.

Don't neglect to pot at least a dozen fine Hyacinth bulbs, and set away in a dark cupboard to take good root, preparatory to brightening up the window

garden. Out of that number carefully brought out, Hyacinth blooms may be had from the holidays until the spring beauties begin to peep from under the snow. Of course, everybody that has a window garden has a little garden under the window (or ought to have) of early spring flowering bulbs.—MRS. S. C. H., *Brookville, Ind.*

IN THE VEGETABLE GARDEN.

This season, I have been more interested raising vegetables than in cultivating flowers, and I have been very successful, nearly every thing I sowed and planted did well. I planted thirty-five poles of Dreer's Lima Beans, and from them I picked eighty-nine quarts of Beans in the pods; was not that a large yield? They require very rich soil, leave three plants to a pole, and a warm, sunny spot, and I cut off the tops when they reach the tops of the poles. Yesterday I was engaged in putting Parsnips and Salsify in the cellar for winter use. I thought, perhaps, our way might be new to some of the readers of the MAGAZINE, although it is an old way with us, the way my mother always kept all kinds of roots through the winter. We put them in the barrels of Potatoes and keep them well covered with Potatoes, the moisture from the Potatoes preventing them from being withered; of course, they should be kept in a cool cellar. Parsnips should not be used until about the first of January, when they will be found to be much sweeter and better flavored.—E. W. L., *Schenectady, N. Y.*

TREATMENT OF CALLA.

Will you please tell me the proper mode of treatment for a Calla bulb?—M. T., *McKinney, Texas.*

In this climate we turn the bulbs out into the garden border in the spring, and leave them until September, then lift them and pot in a rather light but rich soil, and keep them afterwards in a cool temperature, or one from fifty to sixty degrees, giving plenty of water as the plant grows, and in fact keeping a constant supply in a saucer at the base of the pot. In Texas, we should judge, the Calla should succeed well and bloom in winter in the open ground, requiring protection only during a "norther," or when the temperature should fall exceptionally low.

GIANT PUFF-BALL.

We received from a correspondent, in September, a large Puff-ball, with the accompanying note:

Will you accept a specimen of *Lycoperdon giganteum*? I found it in a field near here, to-day. It is considered nice eating. It should be peeled, cut in slices and left in salt for a quarter of an hour, then fried as griddle cakes are. It is well to put it on ice for a while before using it. We like them very much here, and hope you may find it palatable.—A. B. SMITH, *Canandaigua, N. Y.*

The specimen mentioned was globose, but flattened somewhat like a Drumhead Cabbage. It measured eight and three-fourth inches through the long diameter, and five and a half inches the short way. A trial of its edible qualities in the manner described proved entirely satisfactory. Its flavor is much like the ordinary Mushroom.

BUDDING LEMONS AND ORANGES.

Will you please inform me, through the MAGAZINE, if a Lemon tree must be grafted to insure blooming? I have one which will be three years old the coming spring. I have been told the Orange will never bloom unless grafted. To me it seems scarcely credible that all the Orange groves of the South must be treated in this way.—MRS. D. S. C., *Barrington, R. I.*

It is not necessary to bud or graft either Orange or Lemon trees that they may bloom and produce fruit. Such an idea is the sheerest absurdity. Budding and grafting are operations performed to change the variety, or character, of the fruit that the tree bears.

TUBEROSES.

Should Tuberose bulbs be let to grow awhile after the blooms are gone, so that the "toes" may keep on growing? Do Tuberoses ever bloom after the first time? Does a "toe" have to grow one or two years after being taken from the old bulb before it is ready to bloom?—W. T. H., *Delaware, O.*

Tuberoses can be left in the ground in the fall until there is danger of severe frost. The young bulbs require a year or two growth after they are removed from the parent bulb to bring them to blooming size and strength. Instances are on record of Tuberoses blooming a second time, but practically they are worthless after producing a spike of bloom.

FROSTED GRAPES.—Grape growers about the central lakes of this State have lost heavily by the destruction of fruit by frost this fall. The past summer and fall have been the coldest ever experienced by them.



JACK FROST.

"Dear mother, I've read in my little book,
Of Jack, the Giant Killer,
Who did such wonderful mighty deeds,
Who cut off so many giant's heads,
This little Giant Killer."

"My dear, 'tis naught but an old-time tale;
No Jack, the Giant Killer,
E'er lived to do such wonderful deeds,
To cut off those terrible giant's heads—
No Jack, the Giant Killer."

"But I know of one who might be called
By name of Flower Killer;
He bites the leaves and the bright, pretty head
Of many a plant, and leaves it dead,
This Jack, the Flower Killer."

"At night he slips to the garden beds,
This Jack, the Flower Killer,
And slays our pets in his mischievous glee,
But the foot-prints are all that we can see
Of Jack, the Flower Killer."

—SIDNEY EMMETT.

BITTER-SWEET.

"Edward," said Mr. Haines to his son, one Saturday morning, "I am going to the city, to-day, and may not return until late to-night. I want you to stay about the house and do whatever your mother wishes done."

As soon as his father was out of sight, Edward commenced grumbling to himself about having to go to school all the week and then not being allowed to make play day of Saturday.

"Don't grumble," said his mother, "but if you have any thing sensible to say, say it outright, in manly fashion."

"Well, then, I'll say outright that I don't think it fair to have to go to school all the week and then work on Saturday."

"Edward," rejoined his mother, "I know boys trained to industrious habits who think it play enough to be allowed to go to school three-fourths of the year. And it's no wonder, when the scholars get as much time for play as they do;

but if you really see no reason for going to school, only that you 'have to go,' I think I can persuade your father to furnish you with regular employment during five days of the week, and give you a holiday on Saturday. By working industriously from seven in the morning until six at night, except the hour at noon, you could certainly earn your board. That would be quite a help to your father, now that his health is failing, and his business with it."

This suggestion made no impression on Edward, whose experience with his too indulgent father left him little to fear in that quarter. The mother's keener perception had long since shown her that the more the boy was indulged the more his selfishness increased.

"Now, however," she continued, "I wish you to clear the dead vines from the piazza and back porch; also to rake up the leaves in the yard and carry all to the compost heap. The cord upon which the vines were trained is twisted around the nails above and below, and will come off all in one piece, which you can wind into a ball. Next Saturday you can clear away the dead flower-stalks in the borders, and also the refuse growth in the garden, and then we shall be all cleaned up for the winter."

"I don't want to work, to-day," said Edward. "I can do it all next Saturday."

"No you can't, and do it properly; so, now get the step-ladder and begin. I shall be very busy all day, and you can do it nicely without my over-sight. No doubt, you will have it done by noon, and then there will be time for your play."

Edward did not move. His mother looked at him in grieved astonishment for a moment, and then said,

"I do not understand how you can be so unwilling to do a little work that is to

make your own home neat and tidy. Why can't you think how nicely it will look when done, and just put on a bright face and go at it whistling or singing a merry tune, until even the passers-by will catch the infection of your good spirits? Why can't you, my son?"

Then that boy, Edward Haines, stood before his anxious, pleading mother, and growled out,

"Because I can't." Then he shuffled slowly out of the house, slowly got the step-ladder, slowly stumbled along with it to the piazza, slowly climbed up, and with one hand in his pocket slowly commenced his work with the other.

Directly, Bob Akers came along, and stopping, called out, "Come on, Ed., let's go down town."

"Don't you see I'm busy," said Edward.

"O, nonsense! you can do that when you come back." Edward thought so, too. So he cast a furtive glance to the windows, and with different motions this time he quickly got down from the step-ladder, quickly crossed the yard, quickly passed out the gate, and with hands out of his pockets, quickly went down the street. Directly the boys met a group of girls with baskets, going to the woods to gather autumn leaves and berries. Edward heard one of them saying, "I hope we can find some Bitter-sweet berries, because they don't rattle off their stems when dry, but will cling for years."

"Bitter-sweet," he repeated to himself. "I never thought of the meaning before. A good many things are bitter-sweet that do not grow out of the ground. It is bitter-sweet when a fellow does as he pleases against the wishes of folks who are too hard on him. But I don't care, I'm bound to get all the sweet I can, and the bitter may go to grass."

Soon after, they passed a house where two boys were cleaning the yard and lattices of dead leaves and vines. Edward felt a sharp twinge for a moment, but when they cheerily called out, "Come around, this evening, boys, we are going to have a bonfire," the twinge was gone.

"O, yes," said Edward to himself, as they passed on, "if I had a brother to work with me and could have a bonfire in the evening it would be different." But we all know that with his disposition the brother would have had a sorry time.

We cannot follow Edward in his aim-

less wanderings through the day, seeking pleasure, but will note that when the other boys on the street scattered home for their suppers, Edward was too cowardly to face his mother's just indignation, and so decided to wait until the late train was nearly due, hoping that by that time she would be so frightened about him and so glad to see him that she would forget to bring him to account.

But Mr. Haines returned on the early train. He brought home with him a depressing burden on his mind, which did not tend to lessen the sense of utter weariness and exhaustion which the journey had produced. When he found that his son had been absent all day he rallied enough energy to go out on the street and look him up. Soon the shouts of boys and the light of a bonfire drew him in that direction. He saw his son's figure in the luminous light, and stepped up behind him, unobserved. Placing his hand upon one shoulder, he kindly said:

"My son, where are you boarding now?"

Edward, covered with confusion, stammered out, "Where I always do, of course."

"Are you sure? Your mother says you were not home for dinner or supper. Where do you propose spending the night?"

"At home," said Edward; and glancing up to learn his father's mood by the expression of his face, he saw that in spite of the lurid fire-light he was ghastly pale. Somewhat disturbed by this, he inquired,

"Are you sick, father?" and received for answer, as they started homeward, "I am far from well, and very weary in body and mind. Coming home thus, and finding you absent and your mother distressed and anxious, together with the painful knowledge of your disobedience, proved almost more than I could bear, to-night."

As they passed through the yard, the shadowy outline of the step-ladder seemed almost like its ugly ghost, taunting Edward in the darkness with his misconduct.

"So all this disagreeable past is the 'bitter,' I suppose," he was thinking, "and the sweet wasn't so very sweet, after all. And now there'll be some more 'bitter' when I meet mother." But Mrs. Haines, seeing that her son was safe and

well, was too anxious about his father to make many words with him; but gave him some bits of bread and cold meat and sent him to bed. That night the step-ladder was stolen, and the next day being Sunday, the culprit had ample time to cover the theft.

When Edward had finished his breakfast, next morning, his father sent for him to come to his room, and said, "Edward, I have something very serious to tell you. My business in the city yesterday was to consult an eminent physician. My worst fears regarding my disease were confirmed by him. I now know that I have but a short time to live."

At this sudden revelation Edward cried outright with alarm and distress, but his father laid his hand heavily upon him and told him to be quiet and listen. Then, while the boy sat shaking with suppressed grief, yes, and terror at the thought of death coming so near to him to rob him of his father, Mr. Haines went on to say:

"What I have told you is not all. You are to lose this home for which you have seemed to care so little. Since the failure of my health my business has not flourished, and I am in debt. But all this, Edward, does not trouble me like the thought of leaving your mother with no care-taker—with no one, in fact, whom she has a right to depend on, or to feel a special regard for her interests and wishes."

"O, father," sobbed Edward, "she has a right to depend on me, and I am getting older and stronger every day, and indeed, indeed, I will make her no more trouble."

"What content it would afford me, Edward, could I know this. I shall try to believe it from this moment on. Now, go to your room, and remain until you can be composed in your mother's presence. Her fears are greatly aroused, but she knows nothing of yesterday's verdict. By and bye I must tell her."

When alone in his room, Edward wept and moaned in an agony of grief and remorse, and finally exclaimed aloud, "Bitter, bitter, all bitter; not one drop of sweet in it."

When Mrs. Haines again joined her husband, she found him just recovering from a paroxysm of pain, many of which he had through the night. During the respite which ensued, he remarked:

"I saw an old friend in the city, yesterday, whom I had not met for years. For a moment such a thrill of joy went through me that I forgot I was ill until his searching eyes reminded me. I have been thinking, this morning, how much more thrilling and joyous must be the meeting in the beautiful hereafter." Then, after a silence, "One phase of this life seems to be made up of meetings and partings."

"Yes, dear."

"Inasmuch as the partings are inevitable, it cannot really matter much, after all, when they come. Time is such a mere cypher compared to eternity!"

Mrs. Haines felt as though great clouds of utter desolation were rolling in upon her horizon, shutting out every ray of light before her. Unable to speak, she bowed her head in silence. He rested his hand upon it, and after a little time she said, without moving, "Tell me all," and he told her.

And now our spirited boy, or any other, may finish out our, thus far, true story for himself. If he thinks there is too much of "bitter" in it, he may add all the "sweet" possibilities that lie in wait for its conclusion, and be not far from right.—AUNT MARJORIE.

THE ALBATROSS.

The Albatross may be termed a bird of the sea, for it spends its life far out on the ocean. It is the largest of web-footed birds, and often, when the wings are spread, measures twelve feet across from tip to tip. The wings are long and narrow, but of wonderful power, thus enabling the birds to fly miles away from land, and when coming within range of some sailing vessel, they are observed by the voyagers with much interest and curiosity. They closely resemble the gulls, and, like them, are very voracious, living principally on fish. Their beaks are curiously shaped, the upper portion long and hooked at the end, the lower short and straight. It is a delicate, pinkish white, but of a slightly yellow shade toward the tip. Their motion, when flying, is peculiarly gliding and graceful, and now and then they seem to skim over the water and seize the fish which rise to the surface. They build their strange homes on the sea coast, usually making a rough structure of earth for the purpose, or hollow out a place in the



THE ALBATROSS.

sand. The color of the birds is generally white, slightly grey on the back, with a mixture of black feathers in the wings and tail, the plumage is soft and full. One species, which is of a somewhat brown color, is called by the sailors the "Shaker Bird," so named from the hue of its feathers. They are chiefly seen in the Antarctic Circle. Great numbers of the Albatross are seen about Kamtchatka, and the natives catch them with baited hooks. The flesh is not fit for food, but the bones of the wings they carve for pipes or useful household articles. A story is told of a sailor who was lost overboard from his vessel, and before a boat could be lowered to go to his rescue it was feared by all on board that he would be drowned. But the attempt was made, and he was at last found clinging to the dead body of an Albatross. He told his mates that when he first fell into the water he swam so long as he could, hoping that they would come to his relief, but he became so greatly exhausted that he thought he should sink. Suddenly, however he espied the dead bird floating near him, and summoning up what strength could, succeeded in reaching it. He grasped it and clung to it until the aid which he hoped for came to him, and thus his life was saved. The Albatross is also often called the "Great Gull," on

account of its large size. What a striking contrast are these huge birds of the sea to the dainty little feathered friends in gay plumage who visit the inland country during the lovely summer, filling the air with the music of their songs! And yet to each one is allotted some useful work which it is intended to fulfill in nature.—M. E. W.

LATE AUTUMN.

O'er the bare woods, whose outstretched hands
Plead with the leaden heavens in vain,
I see, beyond the valley lands,
The sea's long level dim with rain.
Around me all things, stark and dumb,
Seem praying for the snows to come,
And, for the summer bloom and greenness gone,
With winter's sunset lights and dazzling morn atone.

Then let the icy north wind blow
The trumpets of the coming storm,
To arrowy sleet and blinding snow
Von slanting lines of rain transform.
Young hearts shall hail the drifted cold,
As gayly as I did of old;
And I, who watch them through the frosty pane,
Unenvious, live in them my boyhood o'er again.

And I will trust that He who heeds
The life that hides in mead and wold,
Who hangs yon Alder's crimson beads,
And stains these Mosses green and gold,
Will still, as He hath done, incline
His gracious care to me and mine;
Grant what we ask aright, from wrong debar,
And, as the earth grows dark, make brighter every
star!

—WHITTIER.

MAGAZINE CLUBS.**CLUBS OF FIVE.**

The MAGAZINE and Good Cheer will be sent to clubs of five subscribers for one year for \$6.25, or \$1.25 each; or, the MAGAZINE alone, to clubs of five, for \$5.00 a year, and the person getting up the club will be entitled to one of our Floral Chromos on paper.

CLUBS OF TWELVE.

The MAGAZINE and Good Cheer will be sent to clubs of twelve for \$15.00; or the MAGAZINE alone for \$12.00, and to the person getting up the club will be sent, with charges paid, one of our Chromos on cloth and stretcher.

CLUBS OF TWENTY.

The MAGAZINE and Good Cheer will be sent to clubs of twenty for \$25.00; or the MAGAZINE alone for \$20.00, and the person getting up the club will be sent, with charges paid, one of our Floral Chromos handsomely framed in Walnut and Gilt, or a copy of Harper's Magazine for a year.

Thus it will be seen that members of the club can pay \$1.25 and receive the MAGAZINE and Good Cheer, or they can pay \$1.00 and receive only the MAGAZINE.

The beautiful Chromos which will be sent are, the Floral Cross, Winter Indoors and Out, and Bouquet of Lilies. The first is eighteen by twenty-three inches, and the others nineteen by twenty-four inches.

\$300 IN PRIZES.**PRIZE ESSAYS.**

For the purpose of obtaining the best practical information for the benefit of our readers, we offer \$25.00 in Seeds and Plants, selected from our Catalogue, for the best well written article, embodying personal experience, on each of the following subjects:

1. The cultivation of the Cabbage for market.
2. Small fruits for the family garden.
3. The cultivation of Celery
4. The field cultivation of Onions.
5. How can Apples be profitably raised.
6. Planting and management of Grape vines in the family garden.
7. The cultivation of the Strawberry for market.
8. The construction, planting and management of a cold Grapery.

9. The construction, heating and management of a small conservatory.

10. The cultivation of the Raspberry for market.

11. Is irrigation for gardens and small fruit crops of any particular value in that part of the country east of the Mississippi?

12. What root crops can be raised with profit for feeding cattle, and how?

Competitors on the first two subjects should send their manuscript so as to reach us not later than the first of December next. Manuscripts from competitors for numbers 4 and 10 should be received here by the first day of January, 1884. Competitors for numbers 3, 5, 6, 7, 8, 9, 11 and 12 should send manuscripts to reach us by the 20th of February.

The examination of the various communications will be made by competent persons having practical knowledge in regard to each subject, and the decisions will be based entirely on the merits of the writings, but statement of personal experience will in all cases be considered essential.

The prize communications will be published in the MAGAZINE, and those not accepted will be at the disposal of the writers. Those wishing them returned will please send stamps for the purpose. Unaccepted communications left in our possession will be examined, and published, giving the authors credit. Announcement of prizes will be made in our issues of January, February and March.

SINGLE SUBSCRIBERS.

To many post offices in the country we are sending only one copy of the MAGAZINE. We hope to have the aid of the subscribers at these places in increasing our circulation the coming year. Friends, will you not mention the subject to your neighbors, and invite them to send for the new volume with you? Any of our subscribers who wish sample copies to show for this purpose can have them by informing us by postal card. By all means, see that a copy is ordered for the use of your public school. Give the children an opportunity to learn about plants and flowers, and improve their tastes, and to grow up with habits that will benefit themselves and the community. Mention our offer of flower seeds for the school grounds.

THE MAGAZINE HELPFUL.

To improve in whatever we do it is necessary to come in contact with those engaged in the same pursuits. In no way can this be done as well as by reading their opinions and the descriptions of their methods of work. Every one engaged in gardening in any form should regularly read what others are doing in the same way; and if we are rearing plants merely for pleasure, we shall find our pleasure greatly enhanced by the assistance and sympathy of others. We offer the MAGAZINE as a medium by which our readers may help each other, and its pages are open to their use. Photography is now becoming so common as an amateur art, it often occurs that views of much interest can be taken with little trouble and expense. By means of photographs of flowers, fruits, plants, trees, landscapes and other views, we can prepare accurate engravings that can be enjoyed by all, and those of merit that are sent to us for this purpose will be so employed.

BINDING THE MAGAZINE.

We will bind the MAGAZINE in nice cloth covers, for any subscriber, for 50 cents, and return the book, with the postage or expressage prepaid by us. If subscribers will send us the numbers in season, we will have the volume bound and returned, if possible, before the Christmas holidays. Please give your name on the package when sent, so that we may know to whom it belongs.

BOUND VOLUMES.

Bound volumes of this MAGAZINE make splendid and useful holiday presents. We can furnish volumes from the commencement — 1878-79-80-81-82-83 — for \$1.75 each, or the six for \$9.00. We will prepay the express charges. Bound volumes for 1883 will be ready by the 5th of December.

EXTRA COPIES.

Many persons wish to send a copy of the MAGAZINE to some friend, on account of an article or illustration which it contains, but do not like to lose a number from the volume. We will forward a copy when wanted by any of our subscribers, if so requested, and address sent, with TEN CENTS enclosed.

LOST NUMBERS.

One more number will complete the SIXTH VOLUME of the MAGAZINE and the year 1883. It is quite probable, through some mistake, some numbers may not have been received, which will leave the volume incomplete. If this is so, please send us a postal card, stating what number you need, and it shall be forwarded. We will also replace, without charge, any number that may have been lost or damaged.

DO NOT DELAY.

During this month and the next the subscriptions for nearly all the periodicals in the country are made up. Now is the time to introduce to your friends the subject of taking VICK'S MAGAZINE, for, by so doing, each subscriber will receive in addition a copy of Good Cheer, or he will be able to take advantage of our low terms to secure any of Harper's periodicals.

GOOD CHEER, OR HARPER'S.

All subscribers who avail themselves of our low rates on Harper's Monthly and Weeklies will not be entitled to Good Cheer, but otherwise our MAGAZINE and Good Cheer will be sent for one year to every subscriber at one dollar and twenty-five cents.

VICK'S FLORAL GUIDE FOR 1884.

Our FLORAL GUIDE for 1884 will be ready to send out in December. We design to send it to every subscriber as a beautiful holiday present. If any one should be accidentally omitted, please notify us by postal card.

CLOTH COVERS FOR MAGAZINE.

We will furnish elegant cloth covers for the MAGAZINE, to our subscribers, for 25 cents each, and prepay postage. Any bookbinder can put on these covers at a trifling expense.

NOT A BAD HOLIDAY PRESENT.

A subscription to our MAGAZINE would not be a bad holiday present. Our price is so low that we do not feel as though we were pleading our own cause when urging people to subscribe.



THE GENUS CLEMATIS.—In a pamphlet of twenty pages, Mr. JOSEPH T. JAMES has prepared, and, through the Cincinnati Society of Natural History, has published a revision of the genus *Clematis*, native to the United States. "In this monograph," says the author, "I have collected the descriptions of all the species of the United States, have given their geographical distribution, and as full synonymy as I have been able to get together." This writing is a valuable one to the botanist of this country, and will supply a want long felt for a systematic arrangement with descriptions of all our native species and varieties of this very interesting genus, *Clematis*.

HORSES.—Who is not interested in the horse, the most valuable animal to man? FOWLER & WELLS, the well known publishers of New York, have just issued a small volume about "Horses, their Feed and their Feet," a manual of horse hygiene. It is written by C. E. PAGE, M. D., with treatise and notes on shoeing, by Sir GEORGE COX and Col. M. C. WELD. Price 50 cents in paper; 75 cents in cloth. Taken as a whole we consider it the most sensible work on the care of the horse we have ever seen, and should be in the hands of every horse owner.

BEYOND THE SUNRISE.—This is the title of a volume of two hundred odd pages of Lovell's Library, on the subject of clairvoyance, dreams and impressions. Price 20 cents. Like fairy tales, the recounting is of doubtful value, except to fill an idle hour.

GOOD CHEER.

A paper that can be read with interest by everybody, old and young, without regard to political or theological opinions, and which is so clean and pure in every line that even the most fastidious may not hesitate to place it in the hands of innocent and unsullied children, is something rare in journalism in this or any other country. Such a publication is "Good Cheer," a monthly journal for the people, published at Greenfield, Mass., by HENRY D. WATSON, and edited by Mrs. KATE UPSON CLARK. It is a quarto of sixteen pages, and furnished at fifty cents a year. The reputation of Mrs. CLARK is sufficient guarantee for the excellence of everything that appears in the pages of Good Cheer; but as an indication of its character we here note some of the articles in the October issue: Bob White, a poem, by Eleanor Kirk; The Story of a Cornice, by D. G. Carpenter; A Search for Jacques Cartier's Ship, by Frances B. James; Rachel's Choice, by Frances J. Dyer; The Tyrian Purple, by Ernest Ingersoll; A Day with the Blind, by Mary Winchester; The Society to Encourage Studies at Home, by Adelaide Skeek; Household Pets, by Annie L. Jack; A Chapter on Ants, by Mrs. Julia P. Ballard; One out of Fifty-six, by C. A. Stephens; Some Autumn Flowers, by Ella Rodman Church; May Trainer, by Harlan H. Ballard; The Gaviota Cat-Boy, by Chas. H. Shinn; Hovey Explains, by Margaret Eytinge. In this list of contributors our readers will recognize the familiar names of some of the best and happiest writers of the country. We have noticed only some of the principal articles, and it would be difficult in a few words to convey a proper idea of the variety of matter supplied. There are departments called Dress and Needle Work; The Little

Ones; Thoughtful Moments; The Inner Man, &c., &c. It is a paper that would be helpful and encouraging in every family in the land, and an excellent paper for reading in schools. We have made arrangements with the publisher of Good Cheer which enables us to send a copy of that publication without cost to each of our subscribers that sends us one dollar and twenty-five cents. In other words, the MAGAZINE and Good Cheer are both sent for one dollar and a quarter.

FLOWERS FOR SCHOOL GROUNDS.

For several years we have supplied schools with seeds to use on the school grounds at almost nominal rates. For two years we have offered to give a handsome collection of flower seeds to schools in every County of every State in the Union. The offer is made to supply the seeds to the five schools in each County that first apply for them. The only conditions on which these seeds are offered are that they shall be cultivated on the school grounds, and that by the first of November, 1884, a report shall be made to us by letter of the results of the summer's work in the school grounds. Applications for the seeds may be made to us by teachers, trustees, directors, or any school officers, stating themselves to be such, and giving the names or numbers by which their schools are known, and engaging to execute the design of our offer. In order to render every facility in cultivation, and add to the interest, we will supply any school with our MAGAZINE for one dollar for the coming year. Or, for one dollar and a quarter we will send, for one year, a copy each of the MAGAZINE and Good Cheer.

HARPER'S PUBLICATIONS.

Good literature is a necessity in every family. If we have plenty of good reading we shall not have a desire for that which is low and viscous. We have made arrangements with the publishers to supply Harper's Monthly, Harper's Weekly, Harper's Bazar and Harper's Young People at very low rates, and at which we feel certain our readers will avail themselves. Harper's Monthly and Weekly issues are so well known that it is unnecessary for us to say that they stand at the head of journalism, excelling in every respect—quality of reading matter, typography, engravings, paper, press-work, all. Rates will be found on another page.

THE MAGAZINE FOR 1884.

Our subscribers have given us many proofs the past year that they are pleased with the MAGAZINE. As it increases in circulation each year we are enabled to make it better. This we expect to do with our next volume, and we believe we shall have the influence and assistance of all our present subscribers to introduce it to their neighbors and friends. Can not each one get a neighbor to join him that has not taken it before? So we shall expect we shall be mutual gainers in increasing the number of readers. We now offer unusual inducements to subscribers, as may be seen by our terms elsewhere, and the MAGAZINE ought to find abundant support in every community, and a copy be put in every public school in the land for the training and education of the pupils. The natural sciences are coming to the front, and we are to have less Greek reading—less of what is impractical, and more that is related to our daily wants and uses. A knowledge of plants and fruits, and the growing world is of the first necessity for all. Friends, lend us a hand! Rally round the MAGAZINE, and spread it far and wide! Now is the time to secure subscribers.



CALLIOPSIS